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EXAMINER

NAOREEN, NAZIA

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAGANNATH N. RAGHU, JOHN KILROY, and GUY
HUSSUSSIAN

Appeal 2016-004725
Application 13/539,992¹
Technology Center 2400

Before CAROLYN D. THOMAS, JEFFREY S. SMITH, and
TERRENCE W. MCMILLIN, *Administrative Patent Judges*.

MCMILLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the final rejection of claims 1–21. Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ According to Appellants, the real party in interest is VMWARE, Inc. (App. Br. 1).

REJECTIONS ON APPEAL

Claims 1–6, 20, and 21 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Brand (US 2011/0276713 A1, published Nov. 10, 2011) (“Brand”).

Claims 7, 8, 10–16, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Brand, Elson et al. (US 8,682,957 B2, published Mar. 25, 2014), and Brand (US 2013/0041931 A1, published Feb. 14, 2013) (“Brand II”).

Claims 9 and 17² stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Brand, Elson, Brand II, and Pomerantz et al. (US 2011/0258333 A1, published Oct. 20, 2011).

THE CLAIMED INVENTION

The present invention generally relates to “virtual-machine-based computing and cloud computing,” and more particularly to “methods and systems that provide inter-cloud services.” Spec. ¶ 1. Independent claim 1 is directed to a component; independent claim 11 is directed to a node; independent claim 20 is directed to a method; and independent claim 21 is directed to a computer-readable data-storage device. App. Br. 40, 42, 44.

Claim 1 recites

1. A distributed-services component of a multiple-cloud-computing-facility aggregation, the distributed-service component comprising:

a cloud-connector server that provides an electronic cloud-connector server interface through which a cloud-

² Statement of rejection is directed towards Claims 7, 8, 10–16, 18, and 19, but the body of the rejection is directed towards claims 9 and 17. *See* Final Act. 17.

connector-server user interface is displayed on a remote computer and cloud-connector-server-provided distributed services are accessed from a remote computer, and

that provides an electronic cloud-connector-node interface through which the cloud-connector server requests services provided by remote cloud-connector nodes; and

two or more cloud-connector nodes, each installed in a different cloud-computing facility that each provides an electronic interface through which the cloud-connector server accesses services provided by the cloud-connector node and that each accesses a cloud-management interface within the cloud-computing facility in which the cloud-connector node is installed.

ANALYSIS

We have reviewed the Examiner's rejections in light of Appellants' arguments that the Examiner erred. We are not persuaded that Appellants identify reversible error. Upon consideration of the arguments presented in the Appeal Brief and Reply Brief, we agree with the Examiner that all the pending claims are unpatentable over the cited combination of references. We adopt as our own the findings and reasons set forth in the rejection from which this appeal is taken and in the Examiner's Answer. We provide the following explanation to highlight and address specific arguments and findings primarily for emphasis.

Appellants contend Brand does not describe “*a cloud-connector server that provides an electronic cloud-connector server interface through which a cloud-connector-server user interface is displayed on a remote computer and cloud-connector-server-provided distributed services are accessed from a remote computer*” and “the cloud-connector server requests services provided by remote cloud-connector nodes,” and “cloud-connector

nodes, each installed in a different cloud-computing facility that each provides an electronic interface through which the cloud-connector server accesses services provided by the cloud-connector node and that each accesses a cloud-management interface,” as recited in claim 1. *See App. Br.* 21–23 (emphasis added). In response, the Examiner finds Figure 3 of Brand teaches these claim limitations. *See Final Act. 3; see also Ans. 3.* We agree with the Examiner.

As cited by the Examiner, Brand discloses:

[0020] As illustrated in FIG. 3 the CSS 240 consists of a plurality of cloud connectors 310 that facilitate connections between the device 220 and storage devices 320-1 to 320-P (e.g., disk drives and/or SAN/NAS devices) as well as connections to third parties cloud storage providers 330-1 to 330-S (e.g., Amazon Web Services, Nirvanix, etc.). The cloud connectors 310 operate in parallel to enable load balancing to avoid a single point of failure. In one embodiment of the invention, the web portal 340 is also provided to enable users to perform at least file-based operations on files stored in the CSS 240 using a web-based interface. In accordance with one embodiment local storage devices 320-1 to 320-P are administratively organized in device groups (DGs), each DG contains one or more devices, and when block encryption is used, DGs share the same block encryption key.

[0021] According to certain embodiments of the invention, in order to allow transparent access from clients 210 to files stored in the CSS 240, the device 220 provides a shared network folder (hereinafter the “virtual cloud drive” (VCD)). The VCD exposes files that are stored at the CSS 240. When a client 210 tries to access a specific byte range from a VCD of the device 220 that is mapped to the CSS 240, the device 220 transparently contacts the CSS 240 and requests the blocks including the requested byte range on behalf of the client 210. The blocks are then reassembled, decrypted and decompressed as needed, to recover the original byte range. The reconstructed byte range is then returned to the client 210. To the client 210, the file appears to be stored locally on the device 220. The device 220 may cache

recently and/or frequently accessed data blocks in the memory 460 or and/or the storage 450. Such blocks can be returned directly from the cache instead of from the CSS 240.

Brand ¶¶ 20–21 (emphasis added); *see* Brand Fig. 3. In other words, Brand describes a device communicating with a cloud connector that provides a web-based interface to the device allowing for services provided by the cloud storage devices and third parties. Specifically, Brand shows a Device 220, Cloud Connector 310, and Cloud Storage Providers 330-1 to 330-S; these describe the claimed “remote computer” displaying the “user interface,” cloud-connector server, and cloud-connector nodes that provide services, as supported by Appellants’ Specification showing comparable VCC Server UI, VCC Server 1104, and VCCN 1124 and 1122. *See* Brand Fig. 3 and Spec. Fig. 11. As such, Brand’s cloud connector describes the claimed “cloud-connector server,” and Brand’s web portal providing web-based interface on the device describes the claimed “cloud-connector-server user interface is displayed on a remote computer,” and Brand’s cloud storage providers describes the claimed “cloud-connector nodes” and “services provided by the cloud-connector node.”

Appellants have not provided persuasive evidence that: “a cloud-connector server,” as recited in claim 1, is not described by Brand’s cloud connector; “cloud-connector nodes” and “services provided by the cloud-connector node,” as recited in claim 1, is not described by Brand’s cloud storage providers; and “cloud-connector-server user interface is displayed on a remote computer” and “an electronic interface through which the cloud-connector server accesses services provided by the cloud-connector node,” as recited in claim 1, is not described by Brand’s device accessing the

services of the cloud storage providers through the cloud connector, including use of a web portal for web-based interface.

Appellants further contend Brand does not describe “at least one cloud-computing facility managed by a virtual-data-center server,” as recited in claim 2. App. Br. 24. Specifically, Appellants argue Brand’s devices are components of a physical data center different from a virtual data center. *Id.* In response, the Examiner finds Brand describes data centers contained in the Cloud Storage Service CSS 240, which is virtual in nature since it is located in the cloud. Ans. 4. We agree with the Examiner. Brand discloses “cloud storage services are accessible from anywhere in the world” and data centers that are connected through the Internet and geographically distinct and implemented on a cloud storage service. *See* Brand ¶¶ 6, 19. As such, Appellants have not provided persuasive evidence that Brand’s cloud based service provision does not describe the cloud-computing facility managed by a virtual-data-center server as required by claim 2.

Appellants further contend Brand does not describe “at least one cloud-computing facilit[ies] that includes two or more organization virtual data centers,” as recited in claim 3. App. Br. 24. Specifically, Appellants argue Brand’s devices are unrelated to virtual data centers. App. Br. 24–25. In response, the Examiner finds Brand describes a cloud director among the various cloud service providers at cloud-based data centers. Ans. 4–5. We agree with the Examiner. Brand discloses “cloud storage services are accessible from anywhere in the world” and data centers that are connected through the Internet and geographically distinct and implemented on a cloud storage service. *See* Brand ¶¶ 6, 19. As such, Appellants have not provided persuasive evidence that Brand’s cloud based service provision does not

describe the cloud-computing facilities including virtual data centers as required by claim 3.

Appellants further contend Brand does not describe “at least one cloud-computing facility managed by a management system that is neither a cloud director nor a virtual-data-center management server,” as recited in claim 4. App. Br. 25. Specifically, Appellants argue Brand’s device groups do not describe cloud-computing facilities. *Id.* In response, the Examiner finds Brand describes a cloud director among the various cloud service providers at cloud-based data centers. Ans. 5. We agree with the Examiner. Brand discloses “cloud storage services are accessible from anywhere in the world” and data centers that are connected through the Internet and geographically distinct and implemented on a cloud storage service. Brand ¶¶ 6, 19. As such, Appellants have not provided persuasive evidence that Brand’s cloud based service provision does not describe the cloud-computing facilities managed by management systems not including cloud directors or virtual-data-center management servers as required by claim 4.

Appellants further contend Brand does not describe “wherein the multiple-cloud-computing-facility aggregation comprises at least two cloud-computing facilities managed by two different types of management systems,” as recited in claim 5. App. Br. 25. Specifically, Appellants argue Brand’s cloud connector do not describe cloud-computing facilities and do not manage a cloud storage system. *Id.* In response, the Examiner finds Brand describes a cloud director among the various cloud service providers at cloud-based data center. Ans. 6. We agree with the Examiner. Brand discloses “cloud storage services are accessible from anywhere in the world” and data centers that are connected through the Internet and geographically

distinct and implemented on a cloud storage service. Brand ¶¶ 6, 19. As such, Appellants have not provided persuasive evidence that Brand’s cloud based service provision does not describe the cloud-computing facilities including virtual data centers as required by claim 5.

Appellants further contend Brand does not describe “wherein each cloud-connector node is a virtual appliance that executes within a management system of a cloud-computing system selected from among a virtual-data-center management server and a management system is neither a cloud director nor a virtual-data-center-management server,” as recited in claim 6. App. Br. 25. Specifically, Appellants argue Brand’s physical data centers do not describe cloud-computing facilities. *Id.* In response, the Examiner finds Brand describes cloud-connector nodes in cloud computing systems shown by cloud service providers with contained management systems. Ans. 6. We agree with the Examiner. Brand discloses “cloud storage services are accessible from anywhere in the world” and data centers that are connected through the Internet and geographically distinct and implemented on a cloud storage service. Brand ¶¶ 6, 19. As such, Appellants have not provided persuasive evidence that Brand’s cloud based service provision does not describe the cloud-computing facilities including virtual data centers as required by claim 6.

Accordingly, we sustain the § 102(e) rejection of independent claim 1 and dependent claims 2–6, as well as commensurate independent claims 20 and 21, not separately argued. *See* App. Br. 27–34.

Appellants have provided no separate arguments towards patentability for independent claim 11 or dependent claims 7–10 and 12–19. *See* App.

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Br. 34–36, 37. Therefore, the Examiner’s § 103(a) rejections of claims 7–19 are sustained for similar reasons as noted *supra*.

DECISION

The rejections of claims 1–21 are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED